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NOTES ON GEOGRAPHIC DISTRIBUTION

First record of *Amictus pictus* Loew, 1869 (Diptera: Bombyliidae: Cylleniinae) from Iran

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ABSTRACT: *Amictus pictus* Loew, 1869 (Insecta: Diptera: Bombyliidae) is recorded here for the first time from Iran. The specimens were collected from northern Iran during 2010 and 2011. Morphological characters including female genitalia and geographical distribution of the newly recorded species are provided.

The bombiliids or bee flies (Diptera: Bombyliidae) is a large family with over 4600 known species worldwide (Evenhuis and Greathead 1999). These flies are commonly found in arid and semiarid environments (Hull 1973). Adults generally feed on nectar and pollen, thus are pollinators of wild flowers (Hull 1973). Larvae of these flies are predators or parasitoids of other insects (Du Merle 1975).

The genus *Amictus* Wiedemann belongs to the subfamily Cylleniinae and includes 28 described species in the Palaearctic region (Evenhuis and Greathead 1999). Species of this genus is characterized by the following morphological characters: wing shorter than body; postcranium with deep or shallow troughs around divided occipital foramen; eyes without bisecting line; head with face not broad, base of antennae separated by distance less than length of scape, flagellum lanceolate, as long as scape and pedicel combined; face conically produced, proboscis 2-4 times longer than head length; body narrow, with sparse hairs and small scales, macrochetae long and thick, abdomen elongate (Greathead and Evenhuis 1997). Three species of this genus have previously been recorded from Iran: *A. iranicus* Lindner, 1975, *A. scutellaris* Loew, 1869 and *A. validus* Loew, 1869 (Evenhuis and Greathead 1999).

New materials were collected from different habitats of the northern Iran using malaise traps during 2010 and 2011 (Figure 1). Samples were collected between March and November 2010 and 2011. The specimens were extracted from the malaise traps and sorted weekly. Specimens were dehydrated in 99.6% ethanol for 5-10 minutes and then placed in a pure solution of hexamethyldisilazane (HMDS) for 15-20 minutes. The specimens finally placed in a glass plate for drying and then were labeled. The species were identified using the keys provided by Greathead and Evenhuis (1997), Zaitsev (1966) and Engel (1932). Female genitalia preparations were made by macerating the apical portion of abdomen in cold 10% KOH for 14- 15 hours, and then washed with distilled water and transferred to fresh glycerin to study. All specimens are deposited in the

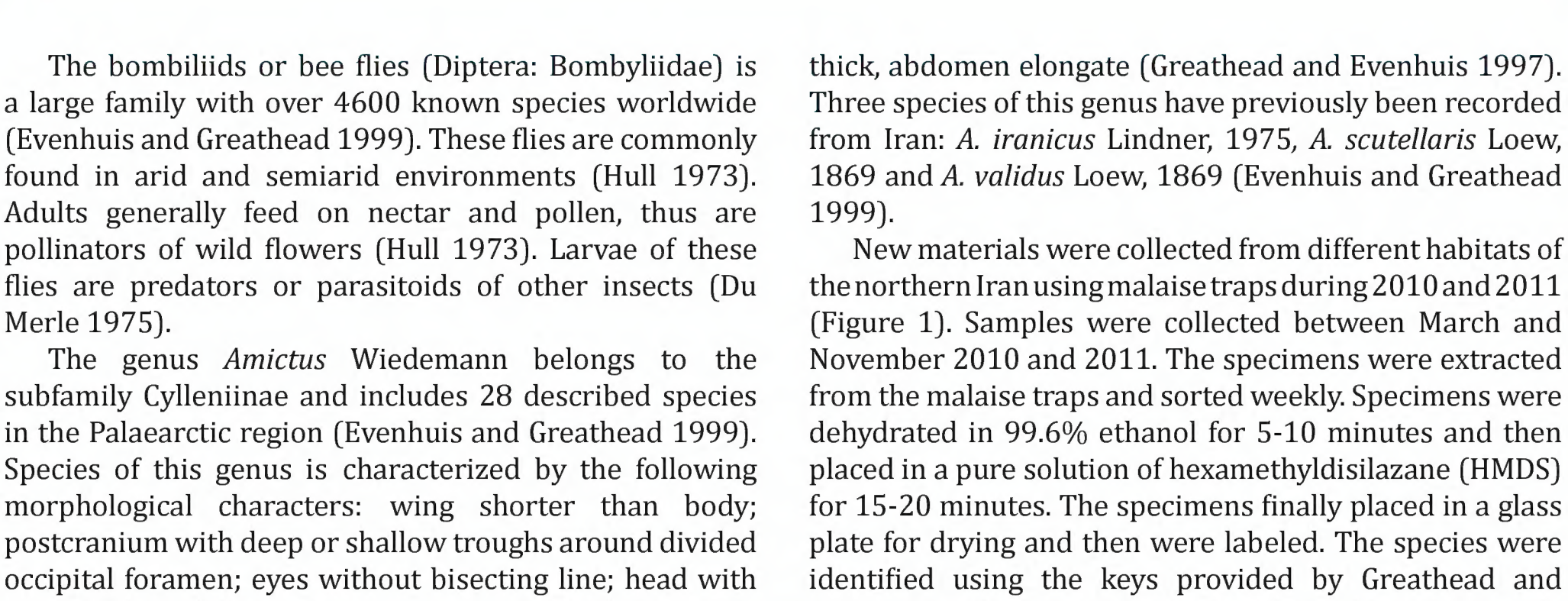

FIGURE 1. Iran- Alborz and Ghazvin provinces, where the *Amictus pictus* specimens have been collected.

insect collection of the Department of Entomology, Tarbiat Modares University, Tehran, Iran.

In this study, *Amictus pictus* was collected and identified for the first time from Iran.

***Amictus pictus* Loew, 1869**

Material examined: Iran, Ghazvin province, Loshan, 36°40'09" N, 49°25'37" E, 291 m, 29.vi.2011, (2♂ 2♀)., 6.vii.2011, (1♀), leg. A. Nadimi., Zereshk road, 36°25'39.36" N, 50°06'36.90" E, 1997 m, 27.vii.2011, (7♀), leg. A. Nadimi., Zereshk road, 36°25'23.68" N, 50°06'37.68" E, 1926 m, 27.vii.2011, (1♀), leg. A. Nadimi; Alborz province, Sarziarat, 35°55'10.38" N, 51°06'51.24" E, 1980 m, 6.vii.2010, (2♀)., 13.vii.2010, (1♀), leg. A. Nadimi., Shahrestanak, 35°58'16.26" N, 51°21'25.80" E, 2225 m, 6.vii.2010, (1♂), leg. A. Nadimi., Karaj, 35°46'20.16" N, 50°56'44.94'' E, 1278 m, 6.vii.2010, (1♀) leg. A. Nadimi.

General distribution: North Africa: Algeria Europe: Armenia, Azerbaijan, Bosnia-Herzegovina, Bulgaria, Croatia, Greece, Georgia, Italy, Macedonia, Slovenia, former Yugoslavia (Evenhuis and Greathead 1999). New record from Iran.

Diagnosis: Head: frons and face yellow, covered with white and pale yellowish hairs (Figure 2E), proboscis 2 to 3 times as long as head; ocelli have an isosceles triangle; antennae separated by as much as 1/4 length of scape, scape covered by white sparse hairs, pedicel short and almost 1/3 times as long as scape, flagellum about as long as scape and pedicel combined, covered with scattered black hairs (Figure 2D). **Thorax:** covered with brownish yellow scales and some long brownish yellow hairs, mesonotum with two broad pale yellow strips (Figure 2G), scutellum covered with brownish yellow scales. **Wing:** hyaline, R_5 cell closed, cross vein *r-m* placed after the middle of discal cell (Figure 2A), halter yellow. **Legs:** yellow or brownish yellow, covered by pale yellow scale and scattered black thorn, tarsus black (Figure 2F), empodium present. **Abdomen:** elongated and narrow (Figure 2C), covered by brownish yellow and white scale and pale yellow hairs (Figure 2C), antero-lateral sides of first abdominal segment covered with dense pale yellow hairs, last segment covered with dense pale yellow, white and black hairs (Figure 2F). **Female genitalia:** spermathecal reservoir dark, long, cylindrical, gradually narrowed apically; apical spermathecal duct membranous, yellow, half times as long as length of spermathecal reservoir; sperm pump very long and brown; basal spermathecal duct short and membranous, common spermathecal duct proximally slightly sclerotized and brown, distally membranous; furca U-shaped, sclerotized, acanthophotrite includes four bristles each side (Figure 2B).

Remark: This genus has been reported from tropical, temperate and Mediterranean climates (Evenhuis and Greathead 1999). One species has only been recorded from India (Mitra 2008), four species from Turkey (Dils and Ozbek 2006), six species from Egypt (El-Hawagry 2002) and one species from Spain (Sánchez Rodríguez *et al.* 2001). In the current study, the specimens were collected from the temperate and cool areas of Iran. Samples were collected in late June and July and no *Amictus* specimens were observed in other months.

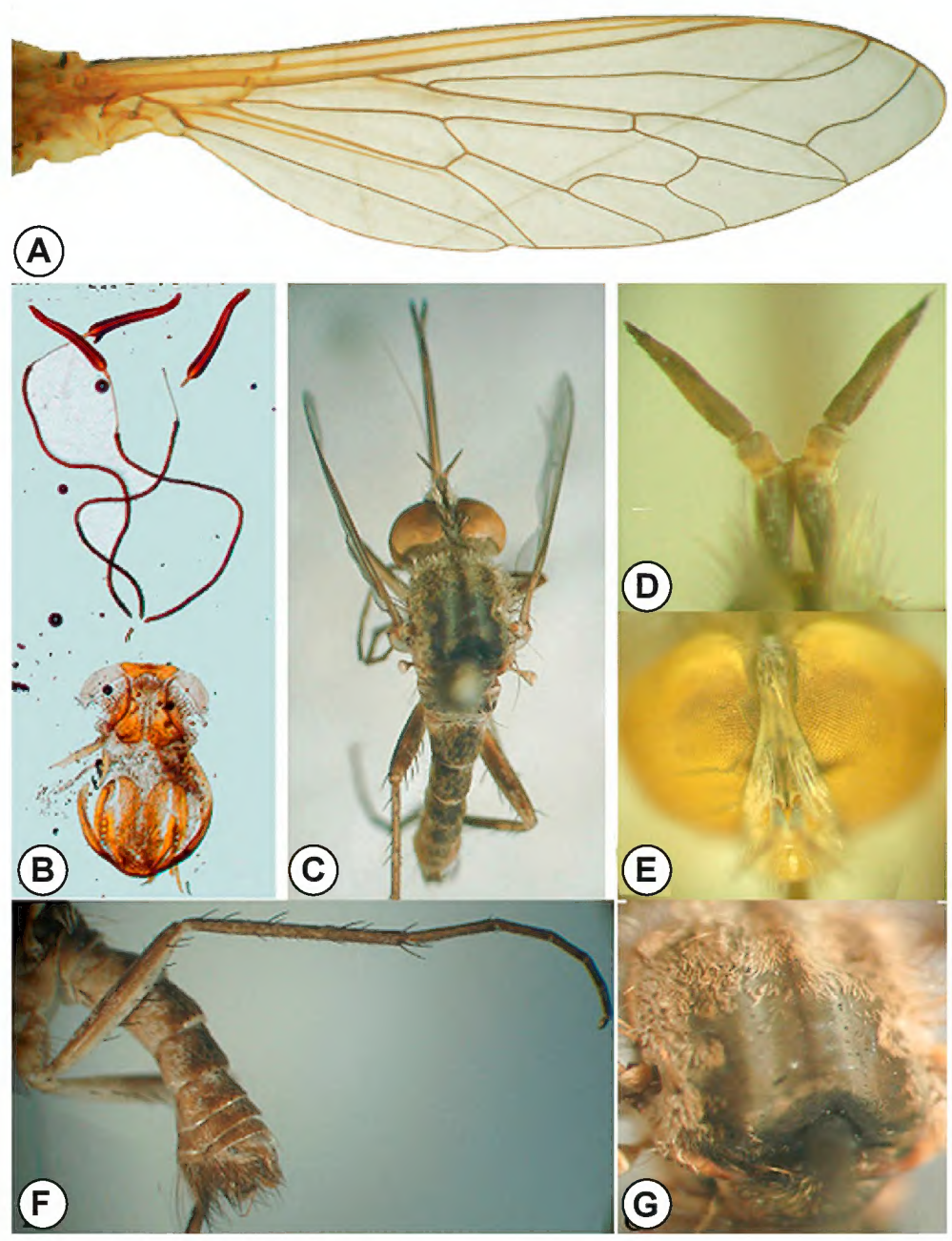

Figure 2. *Amictus pictus*: A- Wing, B- Female genitalia, C- Adult female, D- Antenna dorsal view, E- Head, frontal view, F- Hind leg and abdomen, G- Thorax.

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